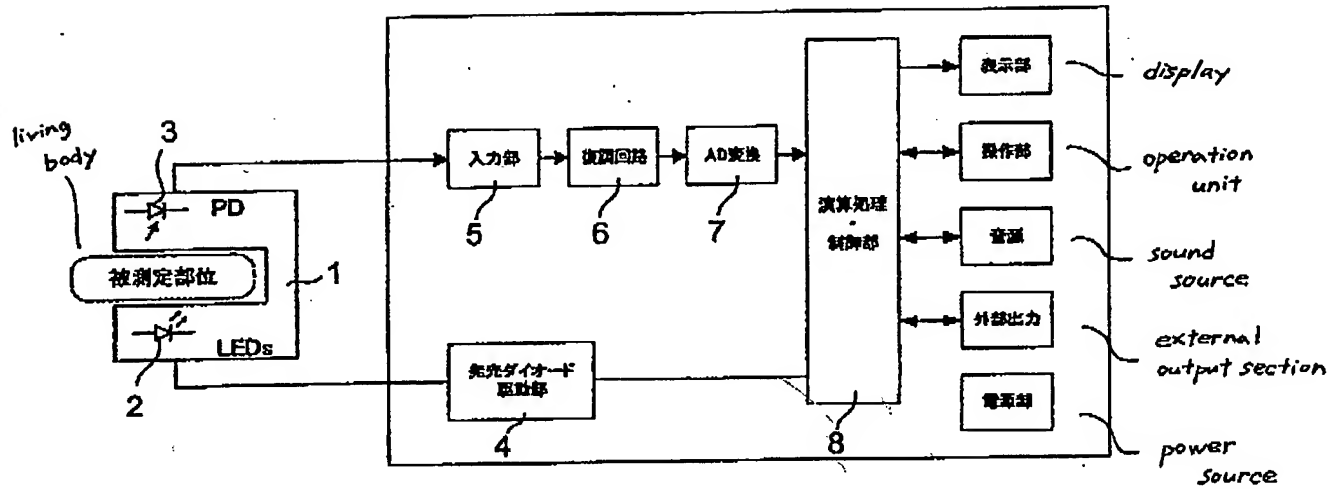


Fig. 1



- 4: LED driver
- 5: input section
- 6: demodulator
- 7: A/D converter
- 8: processor

Fig. 2A

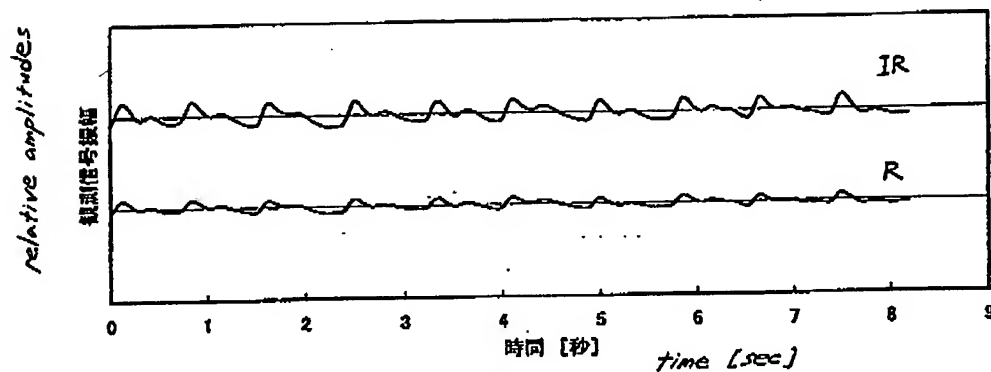


Fig. 2B

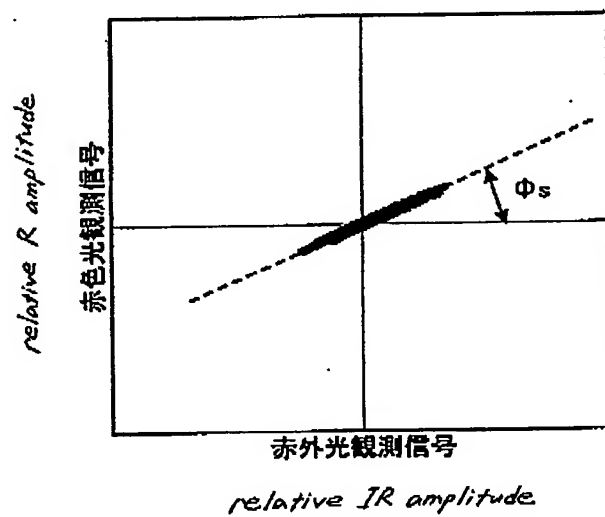


Fig. 3A

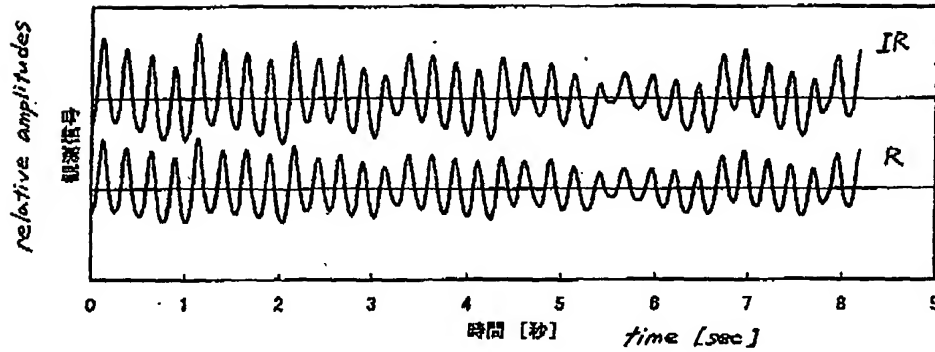


Fig. 3B

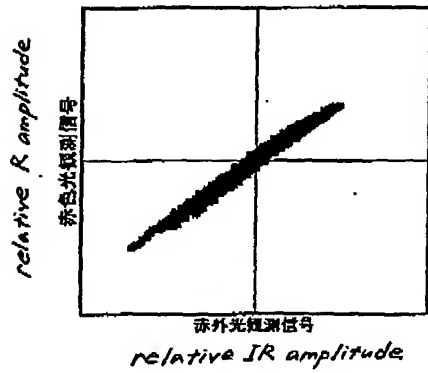


Fig. 3C

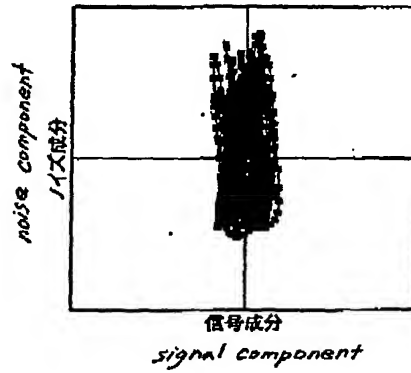
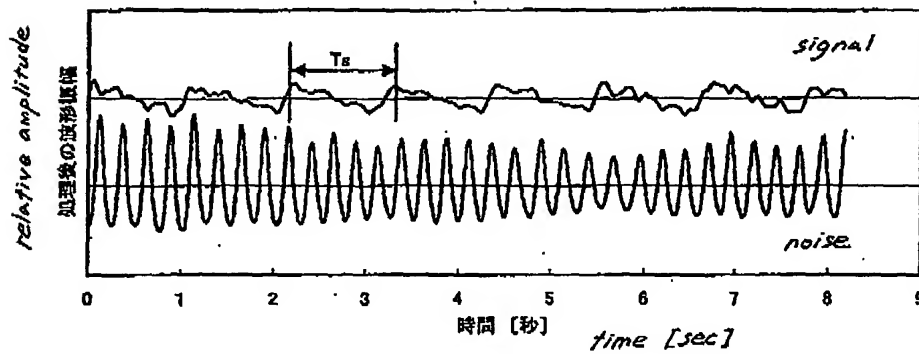


Fig. 3D



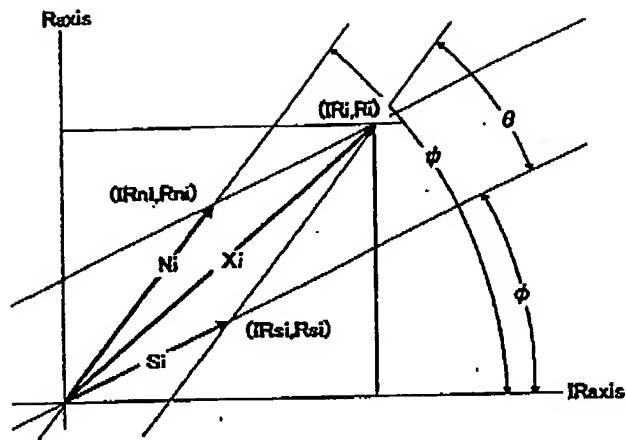


Fig. 4

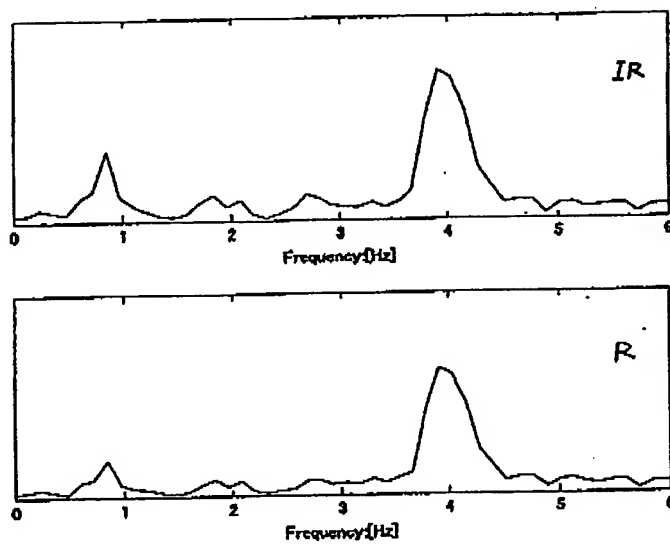


Fig. 5

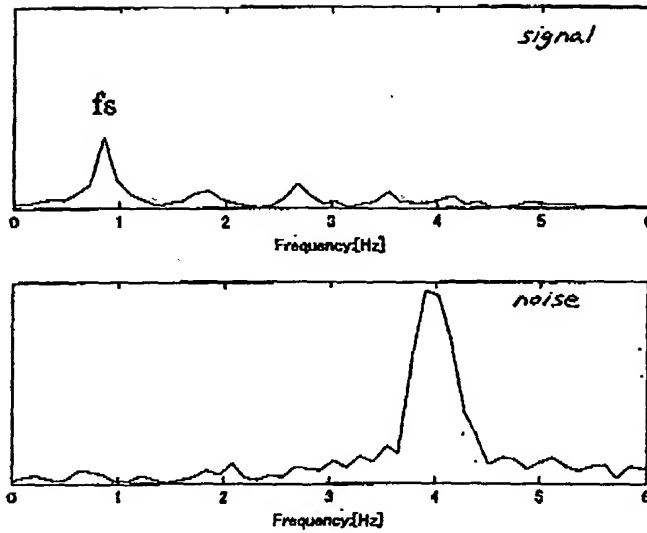


Fig. 6

Fig. 7

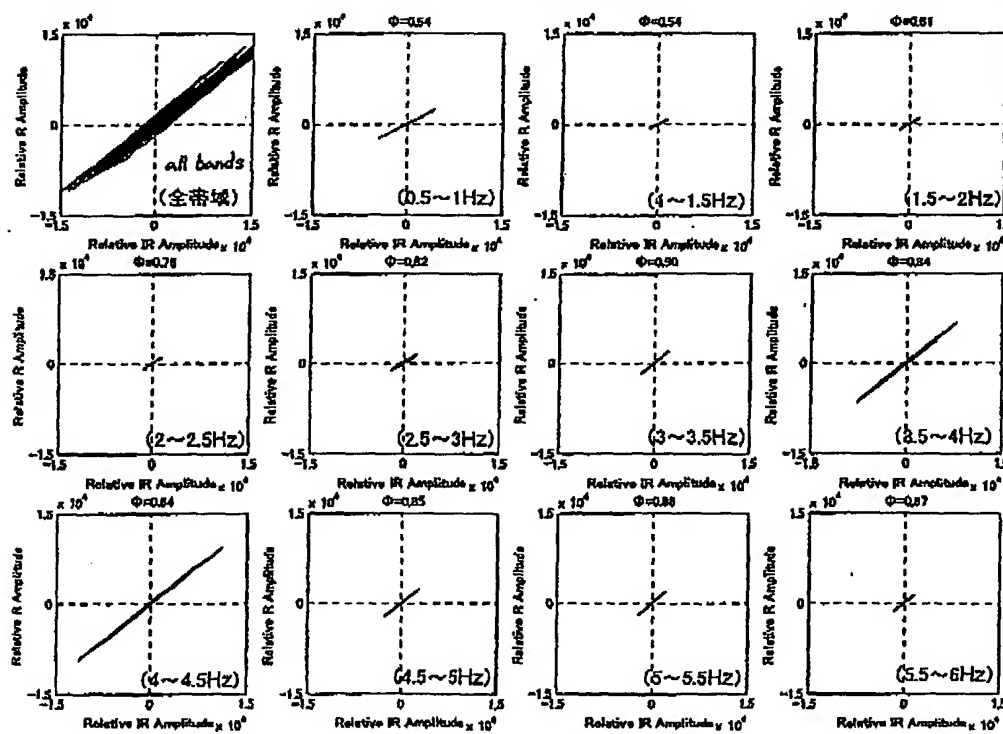


Fig. 8

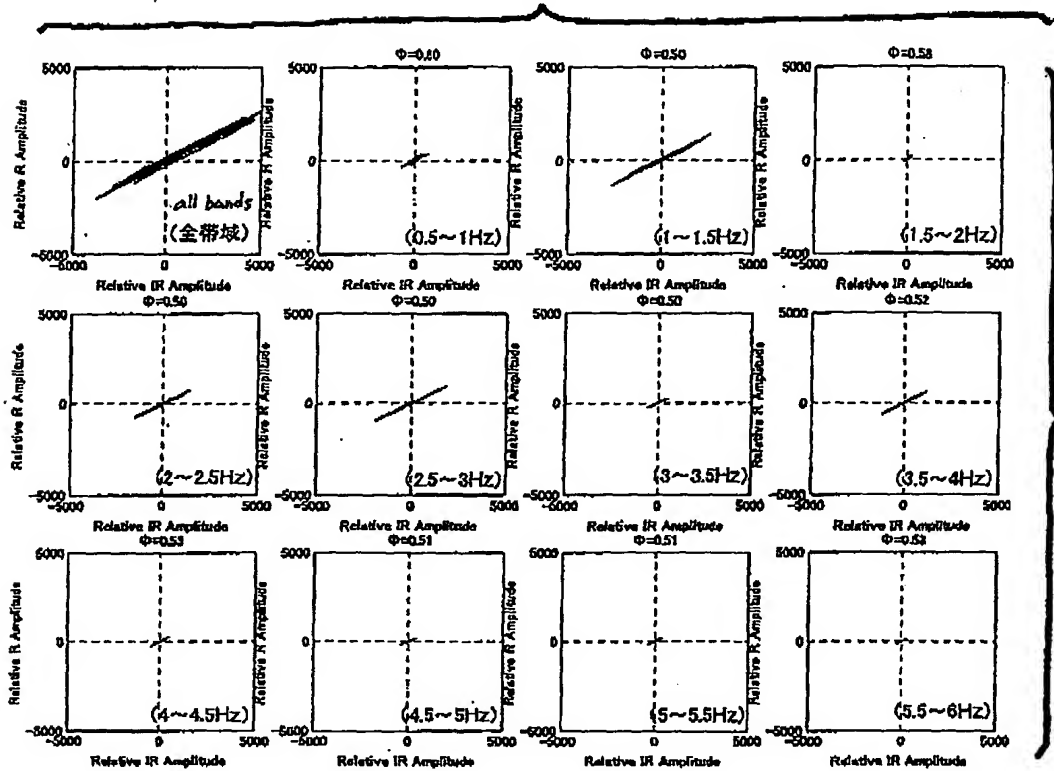


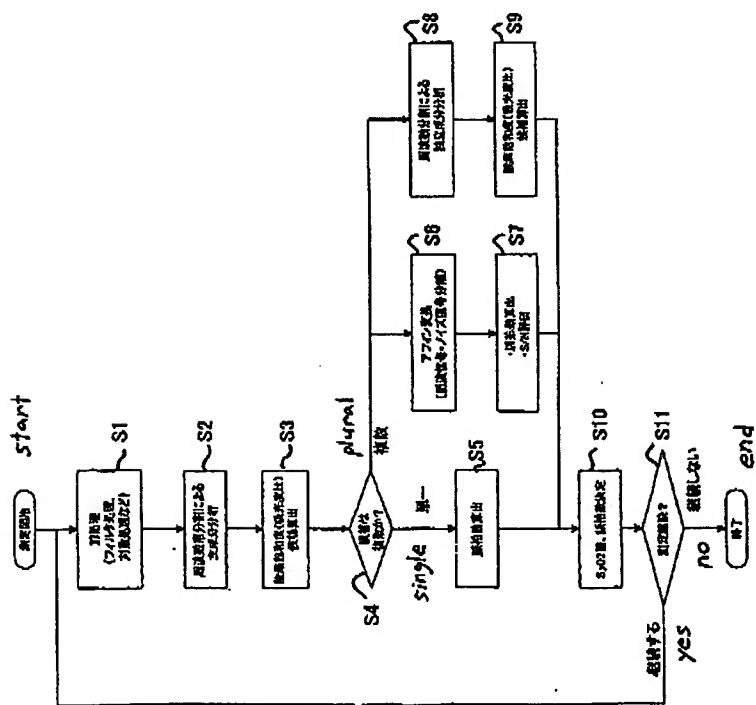
Fig. 9

<i>frequency range</i>	<i>light absorbance ratio 1</i>	<i>light absorbance ratio 2</i>
周波数範囲	吸光度比1	吸光度比2
0.5~1.0Hz	0.52	0.62
1.0~1.5Hz	0.49	0.75
1.5~2.0Hz	0.59	0.68
2.0~2.5Hz	0.71	0.85
2.5~3.0Hz	0.55	0.85
3.0~3.5Hz	0.83	0.99
3.5~4.0Hz	0.81	0.90
4.0~4.5Hz	0.82	0.87
4.5~5.0Hz	0.81	0.90
5.0~5.5Hz	0.82	0.97
5.5~6.0Hz	0.83	0.92

Fig. 10

<i>frequency range</i>	<i>light absorbance ratio 1</i>	<i>light absorbance ratio 2</i>
周波数範囲	吸光度比1	吸光度比2
0.5~1.0Hz	0.45	1.14
1.0~1.5Hz	0.49	0.57
1.5~2.0Hz	0.50	0.88
2.0~2.5Hz	0.49	0.56
2.5~3.0Hz	0.49	0.57
3.0~3.5Hz	0.48	0.60
3.5~4.0Hz	0.50	0.58
4.0~4.5Hz	0.52	0.59
4.5~5.0Hz	0.50	0.58
5.0~5.5Hz	0.50	0.58
5.5~6.0Hz	0.51	0.61

Fig. 11



- S1: preliminary processing (filtering, logarithmic computation, etc.)
- S2: principal component analysis for every divided frequency range
- S3: calculate candidate for oxygen saturation (light absorbance ratio)
- S4: candidate is single?
- S5: calculate pulse rate
- S6: affine transformation (signal-noise separation)
- S7: calculate pulse rate and evaluate S/N ratio
- S8: independent component analysis for every divided frequency range
- S9: calculate candidate for oxygen saturation (light absorbance ratio)
- S10: determine values of oxygen saturation and pulse rate
- S11: measurement is continued?